Dollarization:Demand of time or the result of mismanagement of economy

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Abstract

This paper tries to evaluate costs and benefits of the dollarization. This paper tries to clear some basic understanding about dollarization. This paper provides the empirical evidence for the determinants of dollarization. This paper finds that (a) underlying vulnerability of economic system leads to dollarization. (b) Dollarization is feasible in small economies but not in big economies and only at inflationary environment.

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Introduction

A child who is interested in economics since his childhood often asks his father why our currency value is low compared to dollar, why can value of our currency not be more than dollar, why all the countries have different currencies, why not leaders of all the countries just sit together and decide by majority, the common currency that should be used by each and every country in the world. Though these questions look like childish but the answers to these questions are not that easy. Bretton woods system made an obligation to each country to adopt a monetary policy and maintain the exchange rate by tying its currency to US dollar. In 1971, the famous Nixon shock terminated the convertibility of US $ to gold and put an end to Bretton woods system and dollar became fiat money. Dollarization is linked with these historical events because after 1971, dollar became the reserve currency for many countries.

There are three types of dollarization.Official dollarization means the dollar is the legal tender; there is no local currency. Panama, Ecuador, Micronesia, East Timor, etc. adopted it.Panama adopted it after its independence in and. Ecuador and El Salvador adopted dollarization in 2000 and 2001 respectively. Official partial dollarization means dollar is legal tender and country also issues its own currency. Bahamas, Haiti, Liberia, Laos, Cambodia, etc. adopted this.Unofficial dollarization means dollar is widely used in all 3 functions of money but is not the legal tender, local currency is the legal tender. Most of Latin American countries adopted this. There are 3 types of dollarization associated with all three functions of money i.e. Payment dollarization (currency substitution), financial dollarization (asset substitution) and real dollarization (local price and wages in the dollar) (Nicolo, Honohan, Ize. 2003). Dollarization no longer refers just the U.S. Dollar. Euro area adopted the euro as a legal tender in 1999. San Marino and Vatican City are officially dollarized with Italian Lira. Bosnia is officially semi dollarized with Dutch Mark along with Bosnian Marka. Macau and part of south-eastern china are unofficially dollarized. Hong Kong dollar though circulates but is not the legal tender (Stephen A. Mayor). There are various researches that support dollarization. Eichengreen (1999) argues that in a world of high capital mobility, either pure floating or hard pegs such as monetary unions, currency boards and dollarization are the only sustainable modes while arrangement with BBC (basket, band and crawl) can’t survive speculative attacks. The capital mobility, monetary policy independence, and a fixed exchange rate regime cannot be accomplished at the same time. If capital movements cannot be controlled, there will be either a loss of monetary policy independence with a fixed exchange rate or monetary policy independence with floating exchange rate. A country that maintains some sort of soft pegs might soon become a victim of speculative attacks. Dollarization is not just a theory given by influential economists but a real policy option. (Choo and wang, 2002). The corner solution of Dollarization is reached when residents of a country extensively use the U.S. dollar or other foreign currency instead of their domestic currency (Schuler, 1999). Dollarization whether official or unofficial, can be classified into three forms according to the relationship with the U.S.; unilateral, monetary union with the U.S., and bilateral agreement or the treaty with the U.S. Unilateral dollarization represents a policy of dollarization without any formal agreement. Dollarization via monetary union with the U.S represents EU type of monetary integration and dollarization through a bilateral agreement implements the sharing pattern of seigniorage. From 1990 Onwards, we have two topics of discussion in economics. First is inflation problem and second is as the capital mobility and the scale of capital flows increased, the frequency and severity of currency crises also increased (Berg and Borensztein, 2000). Dollarization is highly related to both of these topics of debate and both being the reason for Dollarization. This paper explores the extent to which this policy is justified by looking into its cost and benefits. Using a large sample about 70 countries, this study has tried to show that permitting Dollarization is supports a deeper financial system only at inflationary environment.

In the dollarized country, central bank's position is just like producer of goods and services because only products with good quality and is reliable will sell.

Path to Dollarization

Going back to the origin of currency notes, currency notes was founded by replacing gold or metal coins and were fully backed by and redeemable in an equivalent amount of gold but after world war I, Britain was abandoned from using gold standard in national as well as international transactions. In 1968, because of Vietnam War, US was running at balance of payment deficit and trade deficit. In 1970, govt. Gold coverage of the paper dollar declined from 55% to 22% and holders to the US dollar lost its faith in it because of govt not able to reduce its fiscal and trade deficits. In May 1971, West Germany left the Bretton wood system and declined to devalue the Dutch Mark in order to prop up dollar and dollar dropped 7.5% against the deutch mark. Other nations asked for the redemption of their dollar into gold by using america's promise to pay because of the excess printed dollars and US trade deficit. Switzerland redeemed $50 million paper currency into gold and France also acquired $191 in gold and further depleted the US gold reserves (Frum,David 2000). For stabilizing the Economy and inflation rate of 1970's US President Richard Nixon on 15 august 1971 declared that there will be no convertibility between US dollar and gold and adopted fiat money indefinitely.(Yergin,Stanislaw 1997). At this point of time many countries' currency was fixed to the US dollar and so by this step of United States of America, many countries have become the fiat money based countries. What happened in the last three decade is that Pegged but adjustable exchange rate regime has lost the feasibility while hard but freely floating exchange rate regime has gained the popularity (summers 2000; Fishers 2001). Many economists has suggested that third world and emerging economies should give up their currencies and adopt the currency of advanced nation as a legal tender (Reinhart, Carmen & Calvo, Guillermo, 1999). Dollarization is very common phenomena in latin American countries because With the effect of two oil shocks in the 1970's, many Latin American countries experienced economic distress and asked for help from international financial institution. In early 1990's, Latin America adopted neo – liberal policies. The major reason for adopting this was the advices that came from US treasury, IMF and World Bank. These are the same common advices given by each and every international financial institution like removal of trade barriers and privatisation of public enterprises and switching of managed floating exchange rate into free floating exchange rate. With the increase of capital flow, inflation rises and public moved away from the local currency in order to seek protection from inflation and adopted the dollar which is the standard currency. With this decrease in demand of local currency, their currency depreciated further which result in more deviation from using local currency. By the end of 1990, situation arises that economists suggested that eliminating the local currency and adopting the US dollar as a legal tender will solve the problem of inflation as well as currency depreciation. In 2000, Ecuador abolished its currency, the Sucre and adopted the US dollar and in 2001 El Salvador adopted the dollar.

Dollarization mainly happens when the residents of a country no longer view their local currency as a reliable store of value because of currency devaluation in a high inflation environment, they want to hold dollars or dollar denominated assets. They are unwilling to borrow money in local currency because they are not certain about its future purchasing power. Another measure to counteract dollarization is to index the prices in local currency with inflation but it is not feasible in highly fluctuating inflation environment that is why dollarization occurs.

Benefits of dollarization

Dollarization helps in reduction of exchange risks associated with exchange rate volatility. A certain exchange risk will always remain due to the possibility of fixed exchange rate might be abandoned in the future. Dollarization reduces the cost associated with foreign exchange which arises due to the currency transaction between different countries. Currency conversion cost will also depend on some factors like bank fee charge for conversion of foreign currency as well as in house cost that arises from maintaining separate foreign exchange department. These costs can only disappear by dollarization or monetary union. Elimination of exchange risk costs and foreign exchange costs, reduce the transaction cost and the trade and investment flows from U.S. to the dollarized country and that boosts bilateral trade. (Stein et al., 1999)

Inflation rate and its volatility will be reduced. Dollarization automatically imports the monetary policy of the US and will therefore achieve a lower inflation rate. Inflation rate will converge to the US inflation rate. Real interest rate and its volatility will be reduced. Devaluation risk be reduced because exchange rate will not be used in discretionary way. the reduction in the systematic risk will induce economic agents to reduce the discount rate at which they discount future returns (De Grauwe, 1994).

Dollarization avoids currency and balance of payment crisis provides lower transaction cost and assures stability of prices in dollar since dollar is a standard currency. Full and legal dollarization is the change in monetary regime that provides base for strong and steady economic growth because adoption of foreign currency can be perceived as irreversible institutional change towards low inflation, fiscal responsibility and transparency. Dollarization integrates the domestic financial firms with the world market.

Dollarization is the only source that can integrate the dollarized country economy to the US economy up to maximum possible extent.

Costs to dollarization

Main loss due to dollarization is independent monetary policy. Independent monetary policy provides three main benefits for the economy. Firstly, an independent monetary policy isolates the domestic interest rate from foreign interest rates freely determine the level of it. Secondly, it allows the central bank to use monetary policy as an instrument of anti-cyclical management of the aggregate demand. The third benefit of an independent monetary policy is that it can be used to avoid sever deflationary adjustments. Even when the monetary policy does not have any effects on the aggregate demand, an independent monetary policy improve monetary authority's ability to influence or determine the price level. In other words, central banks can always influence the inflation rate.

Exit point of dollarization also affects the cost. Bilateral dollarization is more difficult to revert than a unilateral dollarization. Hence losing the exit option in case of bilateral dollarization is more costly. Optimum currency areas provide some situations that make monetary independence loss less costly for a country (Stein et al., 1999) like if economic cycle of dollarized country is highly dependent on US economic cycle, when dollarized country has higher degree of wage flexibility, high degree of labour mobility between dollarized country and US and if the economy is highly open where monetary policy is less effective and devaluations often cause higher inflation.

Central bank issues noninterest bearing debt (currency) and holds interest bearing assets (foreign reserves etc.) the central bank earns a (gross) profit that is often named as seigniorage. Seigniorage is the profits accruing to central bank from its right to issue currency. In common words, seigniorage is the difference between interests earned on securities acquired in exchange for currency and the costs of producing and distributing that currency. Dollarization implies two types of seigniorage losses, stock cost and future earnings. In first case, monetary authority has to return all the accumulated seigniorage to public and bank by purchasing the stock of domestic currency from them to adopt the dollar and exchange it from domestic currency. In the second case, monetary authority has to sacrifice the future seigniorage earnings generated from the flow of new currency printed every year to satisfy the new demand of money.

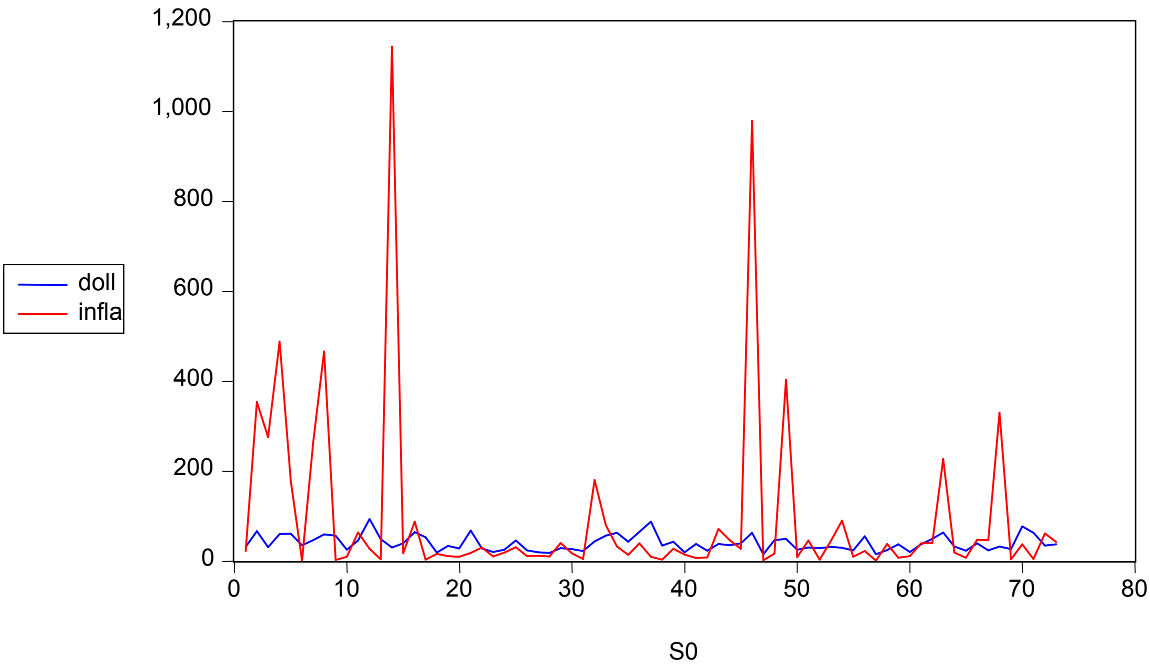
Dollarized country looses the lender of last resort and thus the responses by the central bank in the case of financial emergency. In the case of loss of confidence in a commercial bank, central bank will not be able to guarantee the whole payment system or fully backup that bank since ability to print money is needed. Govt has to take care of both efficiency and equity. Without the lender of last resort govt will not be able to do something for equity. With the loss of lender of last resort, country automatically losses the revenue of last resort

With the adoption of dollarization, county will lose its sovereignty because it has to go to Fed every time its money demand increases. It will not be able to print money so by this way it also loses revenue of last resort.

Empirical Evidence

The empirical evidence begins with the determinants of deposit dollarization from the work of Ize and Levy Yeyati (2003). This study finds that minimum variance portfolio, inflation, institutional structure and underlying vulnerability of the country are the key determinant of cross sectional variations in dollarization. Honohan and Shi (2003) found that allowing de facto dollarization promotes the deeper domestic financial system but only in the inflationary environment.

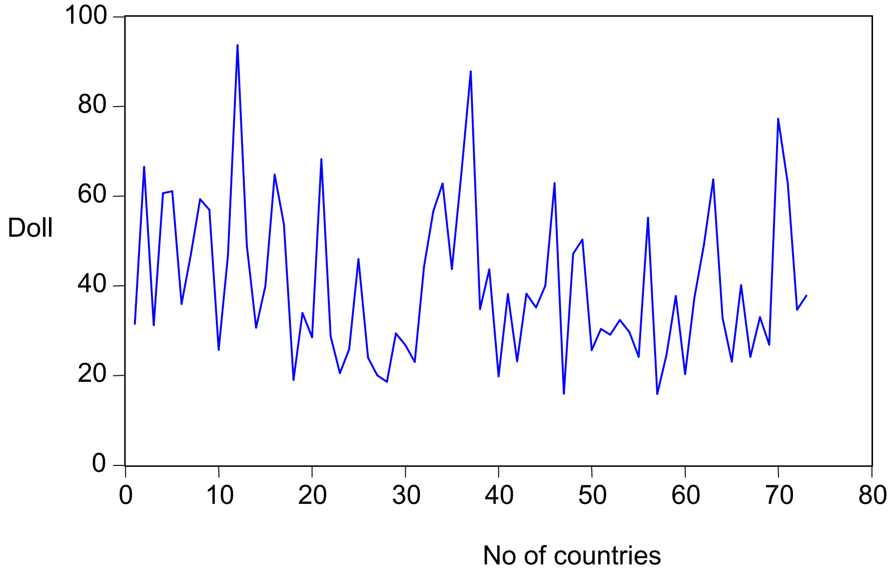
If D is the total value of domestic currency, F the total value of foreign currency deposits measured in foreign exchange, and E is the exchange rate, then the deposit dollarization ratio y can be written as FE/(FE+D).

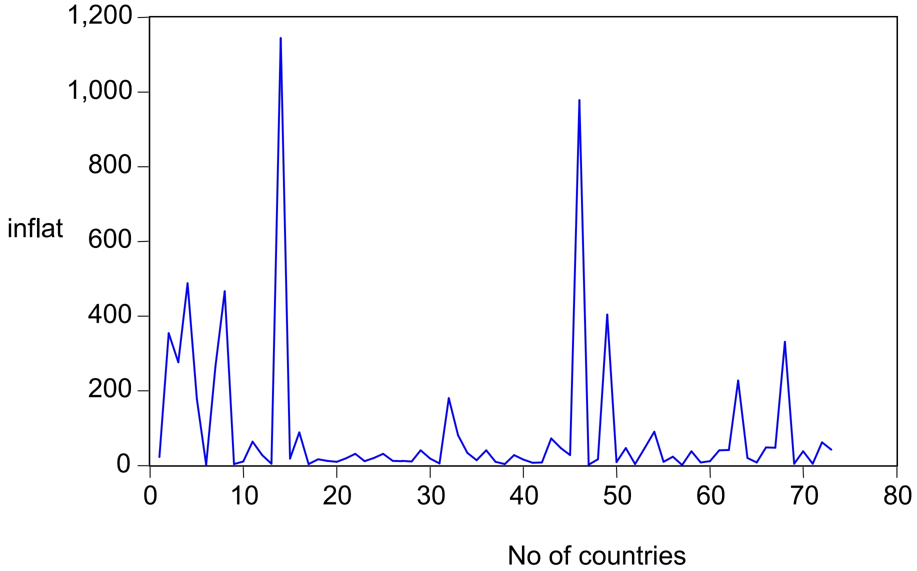


Dollarization and inflation are highly correlated with each other. For clearer picture see the diagram in the next page.

Restriction on dollarization is calculated from IMF annual report on exchange arrangement and Exchange restriction.

Institutional structure is taken in the empirical equation by the study of Nicolo, Honohan and Ize 2003.

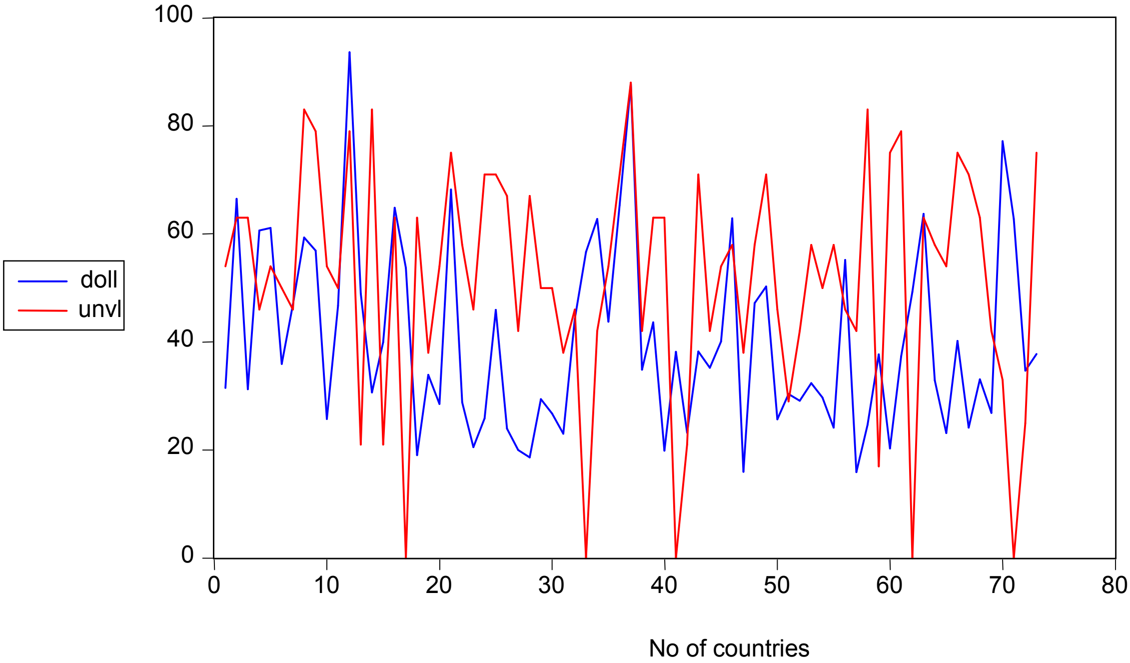




This picture clearly shows the relation between dollarization and inflation that supports the study of Honohan and Shi (2003)

Underlying vulnerability of the country is the index calculated by Views Wire of Economist intelligence unit. This paper checked the effect of underlying vulnerability on deposit dollarization and found that it affects the dollarization.

Underlying vulnerability of the country is composed of 12 factors that determine it. These are 1. Inequality (measured in terms of gini coefficient), 2. Country history (measured according to the date of independence), 3.Corruption (economist intelligence unit), 4.Ethnic fragmentation (ethnic fractionalisation index), 5. Trust in institutions (percentage of people have trust in Parliament), 6.Status of Minorities, 7.History of political instability, 8.Proclivity to labour unrest, 9.Level of social provision, 10.Country's neighbourhood, 11.Regime type and 12.Regime type and factionalism.



Cross sectional determinants of Dollarization

Dependent variable: Average Deposit Dollarization

Dependent Variable: avg_doll
Method: Least Squares
Date: 11/11/12 Time: 11:05
Sample: 1 73
Included observations: 68

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	25.99032	7.268898	3.575552	0.0007
Under_vul	2.434922	1.257396	1.936480	0.0571

R-squared	0.053763	Mean dependent var	39.47191
Adjusted R-squared	0.039426	S.D. dependent var	17.58603
S.E. of regression	17.23587	Akaike info criterion	8.560833
Sum squared resid	19606.97	Schwarz criterion	8.626113
Log likelihood	-289.0683	Hannan-Quinn criter.	8.586699
F-statistic	3.749955	Durbin-Watson stat	1.659536
Prob(F-statistic)	0.057092		

It is able to explain the 3% of dollarization and it is also significant at 10% level.

$$\lambda^* = \frac{V(\pi)+Cov(\pi,s)}{V(\pi)+V(s)+2Cov(\pi,s)}$$

It is how minimum variance portfolio is calculated where π is inflation and s is deflated exchange rate. s = e – π and e is exchange rate. (Ize and Yeyati 1998)

Dependent Variable: avg_doll
Method: Least Squares
Date: 11/11/12 Time: 11:06
Sample: 1 73
Included observations: 57

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-15.32214	21.69373	-0.706294	0.4832
mvp	-3.748509	4.513637	-0.830485	0.4101
Log_inflat	14.12430	3.798319	3.718565	0.0005
inst	5.708164	3.785726	1.507812	0.1377
Under_vul	2.563194	1.507767	1.699994	0.0951

R-squared	0.293926	Mean dependent var	38.60947
Adjusted R-squared	0.239613	S.D. dependent var	17.34645
S.E. of regression	15.12614	Akaike info criterion	8.354356
Sum squared resid	11897.60	Schwarz criterion	8.533571
Log likelihood	-233.0992	Hannan-Quinn criter.	8.424005
F-statistic	5.411681	Durbin-Watson stat	1.445539
Prob(F-statistic)	0.001016		

On taking the all explanatory variables to be included in the equation, it has been found that multicollinearity is present in it. It is able to explain 23% variations in the deposit dollarization. In spite of having multicollinearity underlying vulnerability is significant at 10% level.

Restriction on dollarization is not taken into the equation because there is no index generated for it by IMF and on manually generating the index for it. It decreases the adjusted R^2 so it's better to drop it.

MVP is showing insignificant results due to lack of data availability. For it we need day to day data of inflation and exchange rate for the period of cross sectional study.

Conclusion

The countries that are getting dollarized have to remove trade barriers in order to get full benefit of it. Major loss by the dollarization is loss of sovereignty which is present in almost each and every countries constitution. Countries have to check their vulnerability index seriously because it is going to lead them to dollarization situation in future. Dollarization is a consequence of globalisation. Standard currency is always more attractive because all other currencies fluctuate in terms of this while it remains constant. If inflation is controlled by monetary authority, dollarization situation will not arise. In order to avoid dollarization, local currency should be made attractive as well as use of dollar should be discouraged by the monetary authority. Institutional structure should be improved so that good policies are floated to avoid the dollarization situation.

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Dollarized countries, territories and dependencies

Officially Dollarized: US dollar

East Timor, Ecuador, Marshall Islands, Micronesia, Palau, Panama, El Salvador

Non-U.S. dependencies – Pitcairn Island (New Zealand), Turks and Caicos Islands (U.K.), British Virgin Islands (U.K.)

U.S. Territories – Guam, Northern Mariana Islands, Puerto Rico, American Samoa, U.S. Virgin Islands.

Officially dollarized: other currencies

Independent countries – Andorra (French Franc, Spanish peseta), Northern Cyprus (Turkish lira), Kiribati (Australian dollar), Kosovo (German mark, Yugoslav dinar), Lichtenstein (Swiss franc), Monaco (French franc), Nauru (Australian dollar), San Marino (Italian lira), Tuvalu (Australian dollar), Vatican City (Italian lira);

Dependencies (all non-U.S.) – Cocas Islands (Australian dollar), Cook Islands (New Zealand dollar), Greenland (Danish kroner), Niue (New Zealand dollar), Norfolk Island (Australian dollar), Saint Helena (British pound), Tokelau (New Zealand dollar);

Territories with special status – Kosovo (German Mark)

Officially semi-dollarized: US dollar

Bahamas, Cambodia, Haiti, Laos, Liberia

Officially semi-dollarized: other currencies

Bhutan (Indian rupee), Bosnia (German mark, Croatian Kuna, Yugoslav dinar), Brunei (Singapore dollar), Channel Islands (British pound), Isle of Man (British pound), Lesotho (South African rand), Luxembourg (Belgian franc), Montenegro (German mark), Namibia (South African rand), Tajikistan (use of foreign currencies permitted).

Unofficially dollarized: US dollar

Mongolia, Mozambique, Romania, Turkey and Vietnam.

Most of the Caribbean and Latin America, especially Bolivia, Uruguay, Peru, and Argentina

Most of the former Soviet Union

Unofficially dollarized: other currencies

Balkans – *German mark* ; Macau and southern China – *Hong Kong dollar*; Belarus –*Russian ruble*

Source: Stephen A mayor: basics of dollarization. This list is not exhaustive since determining unofficial dollarization is tough. For further references read annual report on exchange arrangements and exchange restrictions published by IMF